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Correspondence from particular farmers, giving

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Letters should be signed with the writer's real

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THE PLOUGHMAN offers great advantages to ad-

vertisers. Its circulation is large and among the

most active and intelligent portion of the com-

munity.

AGRICULTURAL.

GROWING TURNIPS AND RUTABAGAS.

One of the surprises which most immi-

grants from the farming regions of Great

Britain and northern Europe express when

they begin farming here is that our farmers

make so little of the root crops for feeding.

These "at home," as an English farmer

hand long ago remarked, "are our main

dependence for fattening sheep and cattle."

No English farmer thinks he can get along

without the "bagas," which in pits can be

kept in good eating condition as long as it

pays to feed." The writer pointed to the

waving field of corn across the road, and

remarked that if the English could grow

and ripen corn they would not think so

much of roots as they did. Nevertheless,

the Englishman's remark invited many in

the neighborhood to plant rutabagas in June,

but few of them made much success of

it. They did, however, learn from their

English farm help to grow many more tur-

turnips than they had done before. These

came to be in time many English, Scotch

and Irish farmers in the neighborhood.

They were all good, careful farmers, some

of them used to raising land before they

came here and at rentals dearer

than they are now. It was a great

change for most of them to be able

to buy land with buildings for not much more

than they had to pay for a three to five

years rental in Europe. American farmers

do not half appreciate the great advantage

of growing roots, which is guaranteed by the

Constitution of the United States, which

allows the general Government to dispose of

public lands in fee simple instead of renting

them. Most of the farming population from

northern Europe has gone to the

Northwest, attracted thither by the pros-

pect of cheap and fertile lands. There is

also a large foreign-born class among the

most prosperous small farmers of New

England and other Eastern States. These

are good cultivators, and not easily reduced

into the wild socialism that is common

among the landless and poor of our large

cities, whether of native or foreign birth.

Most American farmers think that they

cannot grow turnips so long as they are

able to grow corn, except by sowing them

among corn and potatoes, and that they have

been cultivated the last time. Corn silage

makes a better and cheaper food for late

winter and spring than rutabagas, and

these last they scarcely grow at all, while

the white or strap-leaved turnip, sown late

in July after the fly has passed away, is

grown without any labor except pulling

and topping. These white turnips can be

and are sold so cheaply that in the

early part of the winter they wholly super-

sede the late varieties of turnips, like St.

Andrews and Yellow Aberdeen and the

rutabagas. Under the shade of corn leaves,

the fly that eats the tender turnip leaves

does not often find them until the turnips get

into the rough leaf, when it cannot be

injured so much. Turnips sown the last of

July among corn grow very fast; the corn

leaves turn very light green and heavy

dew into the spaces between the rows. The

corn roots cannot so late in the season use

up all the fertility that surface cultivation

on moist and rich soil makes available. The

turnip grows even faster after the corn is

stopped by frost. Through September and

October it takes from the soil much of the

nitrogenous fertility that summer culiva-

tion has developed. If there are no rains in

July the turnip seed should still be sown

if the surface soil is reasonably free from

worm seeds. Turnips will make a good

growth if started into germination by rains

early in August, and at this late season they

will not be troubled with the turnip fly.

The ease with which late turnips are

grown enables farmers to sell them in the

fall as low as 25 to 30 cents a bushel if they

have not far to draw them. In dry seasons

like last year all root crops are shortened.

When this is the fact the turnip crop is

shortened by drought, and though they may

sell at low prices in the fall the price is sure

to advance as the white and strap-leaved

varieties go out of season.

Under the new conditions of growing

turnips and rutabagas for sale in cities and

villages, farmers ought to get higher prices

than these roots are worth as stock feed,

and can afford to give them better care and

culture. Our esteemed correspondent H. M.

Turner of Norwell, Mass., told last week

how he grew turnips by manuring with

mineral fertilizers at the rate of 600 to 700

pounds per acre scattered in the drills be-

fore the seed was dropped. Such a dress-

ing of manure would be thought extrava-

sant by those who are only used to growing

turnips for stock, and who rely wholly on the

partly used up manure plowed under for corn

and potatoes the previous spring. Yet his

method probably pays as he grows very large

materials can buy them much cheaper than

if in competition with many other manu-

facturers, and at the American Agricultural

Chemical Company will do the purchasing

for all its factories, the elements of com-

petition in raw materials is a gain elimi-

nated. This company has also very wisely

provided for a large cash capital with which

to purchase all of its supplies, and the sav-

ing in interest effected thereby will pay a

respectable dividend on their entire capi-

talization.

Another point to be noted is that hor-

tal fertilizers manufactured in Massachu-

setts will be sold in that immediate

vicinity, while those sold in Ohio will be

made at Cleveland or other neighboring

points, thus avoiding the very large cost of

transporting Western made fertilizers to the

increase the prices of fertilizers, but will

endeavor to strengthen their position with

the farmers by giving them the very best

fertilizer, containing the largest possible

amount of plant food at such a low figure as

will deter outside capitalists from invading

their money in the fertilizer business.

Live Stock Notes.

One of our exchanges, in its desire to

make a point against the beef trust, and in

favor of more silver money as a circulating

medium, calls attention to the market

prices of beef cattle in 1898, when the bulk

sold in New York at 14 to 17 cents with

choice 18 to 20 cents, and hogs were in de-

mand at 9 to 10 cents a pound, and the price

at later dates with the statements that the

number reported in the country of beef,

nor characterless. They should bear the

stamp and character of the breed they

represent. This breed character is a mark

of good blood, and it should be manifest

in no unobtrusive manner. The sire

should be impressive, resolute and of nobil-

ity arising. He should be distinctly the lead-

er of the flock in every sense of the word.

To meet these requirements he must have

good constitutional and vital powers. With-

out these no animal is fit to head a herd or

flock. In selecting a sire, look first at the

head.

"If deficient there, look no further, but

reject at once. Insist upon a head that

faces you boldly with a wide face, a clear,

prominent eye and a robust character

throughout. The head should be joined to

a well-filled, round, muscular neck, wide at

failed. It needs a moist climate. The

sand vetch should be sown in early autumn

and will not endure the average Minnesota

winters. Farther south it should be valuable

because of its good growth on sandy

soils.

Kale was found there to be about equal to

rape in productiveness, but made a better

growth on heavy soils. It should find favor

in certain sections, and is grown upon much

the same plan and by the same methods as

rape.

The soy bean was tried for autumn pas-

ture in 1899 with good success. The sheep

were fond of it, and it will withstand a

heavy drought. It has power to grow well

upon poor land and enriches the soil. It

may prove value as a midsummer pasture,

but has not been thoroughly tested yet.

The cow pea was sown freely but the crop

did not like it as well as the soy bean.

When grassed down it had more power to

start a second growth. Some varieties do

much better in northern latitudes than

others, and success may depend upon the

variety used.

In 1898 the lambs suffered much from

stomach worms. In 1899 the paddock where

they had been was plowed up and sowed

with food, which was fed to the lambs in

the yards where they were confined until

September. In no instance was there any

indication of stomach worms in 1899. By

this practice the pastures infested with this

pest may be cleansed and the worms erad-

icated from them.

Dairy Improvement.

I would like to ask each and every dairy-

man whose eye catches these lines if his

farm is under or overstocked with dairy

cows, or is it proportioned just right?

He may not be able to answer at first, but

it ought to lead him to investigation, and

that investigation may produce startling

results.

I knew a man in Oswego County, N. Y.,

who rented a farm that had for years sup-

ported only 12 dairy cows. If any one had

suggested that it could have maintained

more the idea would have been greeted as

preposterous, for during the past generation

had not an even dozen been the regular

rank.

You see, it is so hard to get out of a rut.

Well, this gentleman, the new renter, Mr.

C., came from a neighboring township, and

after looking over the premises immediately

placed 14 cows thereon.

He not only "shook up the old bones"

of the farm in this way, but by the end of

the second year, through improved methods

of agriculture and increased soil-crop

acreage, he was keeping 18 cows most pro-

ducingly, where only 12 had been maintained

before.

This is only one practical instance of

what may be done where there is push and

vim and investigation behind the man be-

hind the milk pail.

It does not necessarily follow, however,

that all dairy farms are understocked. I

believe that there are more that are over-

stocked than the reverse. They are over-

stocked in this way. The farm is probably

large enough proportionally in acreage, but

too small in production.

Twenty-five cows are maintained on feed

at a loss, which, if fed to 18 animals, would

result in profit.

How many such cases do we see, and yet

it seems as though the owner was the last

to see the trouble in his right light. Then

again, but very few dairies contain all good

profitable cows right straight through.

The poor cows lower the general average

of the herd below par, and for this reason

AGRICULTURAL.

A Winter Loss.

The farmer is the only business man who finds the winter season one of enforced rest. Throughout the cold weather he is little more than a spectator, watching the stock and the things that are going on in good order. The winter season is therefore almost a dead loss to him. He is making practically nothing, while his living expenses, taxes and interest on money continue. He is a good deal like certain classes of factory operators and laborers who are out of work about half the year. So as to the winter season, the farmer has to become a spectator of the powers in hard work. It is true that we need a let-up from the severe toll of summer, but it would be better for all of us to distribute our work more evenly throughout the year. The modern tendency in farming is all toward this, and winter farming is now becoming something more than a name. We are learning that in order to make what we plant for it is necessary to labor in winter as well as in summer. At present the loss of winter strikes off a good deal of the profits of summer. How to change this is a problem that every farmer must face and study, for farming of the future will extend throughout the whole year.

Winter dairying is one instance of how we are learning to employ ourselves through the winter and thus reduce the loss. Poultry raising in winter and early spring is taking on an entirely new phase because every man who goes into the business soon finds out that he must get eggs in winter, if he is to make a living. So poultrymen find their winters busier than their summers, and they turn the winter loss into a profit. The farmer who raises his winter vegetables and stores them for later market also has his share of work to do in handling them to market at the opportune moment. There are endless opportunities for making our winters more profitable and more enjoyable because we have work to do. It is bad for any man to be laid up all winter with little or nothing to do. Better get a lot of cattle or pigs and fatten them for the winter market than spend the cold months in idleness. Work of one kind or another, for, and we are gradually finding out how to put it to profitable use in winter as well as in summer. The future of farming is largely wrapped up in the success or failure of winter farming, and the man who can only work in summer and wants to rest in winter will surely fail.

JAMES RIDGEWAY.

Wisdom.

Feed the Brood Mares Liberally.

Many of the undersized horses in the North have been made so from lack of feed. The impression still prevails among some of the New England farmers that it is positively injurious to brood mares and their progeny to feed the mares liberally during the period of gestation. They are afraid of getting the mares too fat.

Several years ago we had occasion to visit a farm in New England, where a few mares were kept for breeding purposes. Their hair stood on end, and as they did not wear blankets, there was so much of it that standing a short distance from them they looked to be in fair condition. By passing the hand over their ribs and hips the sharp bones could be distinctly felt with the skin drawn tightly over them. We asked the man who had charge of them if he did not think it would be more profitable to feed them more hay of a better quality, and also give them a few oats every day. "Oh, no," he replied, "they might get so fat that there would be danger of losing both the mares and their foals at foaling time."

Several of the mares were by a stallion, 1900-pound stallion. They were with foal by a horse nearly as large. Those foals are now seven years old, and the most of them are from 14 to 14½ hands high. During the first two or three winters of their lives they were kept in a place which was occasionally frequented by hens and were almost devoured by lice.

The man who rated those animals did not realize 50 cents for every \$1 that they cost him. An expenditure of an additional 20 per cent. for hay and grain and keeping them free from vermin would have given a return of from 50 to 100 per cent. on the 20 per cent. investment.

In order for a man to get his money back in raising horse stock he must select well-bred mares that are good individuals, breed them to a stallion that is well bred, that is a good individual, and whose ancestors were good individuals, keep his brood mares in good condition when carrying their foals, give them plenty to eat to produce a good flow of milk while suckling them, then feed the young things with judicious liberality after they are weaned, and keep them free from vermin and worms at all times.

If many of the farmers in New England would keep but two mares where they now keep three, and give these mares the same value in feed that they do the three, provide them with large, comfortable, well-bedded stalls, and give them the same amount of care and attention that the three require, they would find the business much more profitable than they have in the past.

Our Agricultural Exports.

In a pamphlet issued by the Department of Agriculture are given the statistics of our agricultural exports for five years, from 1894 to 1898 inclusive. The average for the five years was \$663,536,201 or 69.58 per cent. of all our exports; 54.61 per cent. went to Great Britain, 13.01 per cent. to Germany, 6.93 per cent. to France, 4.34 per cent. to Netherlands, 3.58 per cent. to Belgium, 3.47 per cent. to Canada, 2.15 per cent. to Italy, 1.47 per cent. to Spain, and no other country took as much as one per cent. of our agricultural products, and to all other countries only about 10 per cent. was sent. The largest increase in the five years was in the amount taken by Great Britain, though the trade with Germany and France showed considerable increase, and so did Belgium and the Netherlands, considering the small size of those countries. Canada, Japan, Italy, Denmark and British Africa increased during the five years. While Great Britain took over one-half of all our agricultural exports during the whole time, or over \$367,000,000 a year, and the last year over \$1,000,000 a year, Canada took about \$23,000,000 a year, as an average, West Indies nearly \$17,000,000 and South America \$11,388,761 a year, over one half of which went to Brazil. Canada took more than twice as much as all of South America.

Bees and Honey.

If we had a colony of bees which was apparently strong, yet failed to produce much honey, or one in which the bees were so savage as to make it a very unpleasant task to work among them, one of the first things we would do in the spring would be to destroy the queen and give a queen from a better colony if we had or could get one. Then we could cut out all the drone comb from that hive, and supply its place with worker comb or foundation, to prevent the possibility of breeding any more from such undesirable stock. There is as much in good breeding of bees as of other stock, although but little attention has ever been paid to it, and we do not know how much a colony may be influenced by the drone, nor do we know, when the queen takes her nuptial flight, from which hive the drone may come to mate with her.

If a beekeeper can afford to pay \$3 to \$5 for a queen from a colony or strain that he thinks is superior, he should run little chance of having her mate with drones from a colony that he knows is inferior. Mr. Root has offered to pay \$100 for a queen that will come up to certain conditions, which shows how much importance he attaches to good breeding of the queen.

There are usually drones enough in one hive to fertilize all the queens in an ordinary apiary, and if that hive has the best chance of having her mate with drones from a colony that he knows is inferior. Mr. Root has offered to pay \$100 for a queen that will come up to certain conditions, which shows how much importance he attaches to good breeding of the queen.

Fractures in Horses' Limbs.

BY GEORGE FLEMING C. B., LL. D., F. R. C. V. S.

None of the domesticated animals is so much exposed to fracture of bones as the horse, and he certainly stands next to man in his liability to this injury. There are, indeed, few of the bones which compose his skeleton that are exempt from the risk of breakage, and this need scarcely be wondered at when we consider the manifold ways in which he is exposed to accident, from the nature of the work to which he is put. The powers of no other animal, either for speed or strength, are so severely taxed, and often under disadvantageous circumstances. The bones of the head, neck and trunk and all liable to fracture, and even those of the tail; but those of the limbs are certainly most frequently broken, either when the animal is at work or when at rest in the stable, and it is on some of these limb fractures that I now propose to make a few observations.

Fractures of bones are most conveniently classed as simple, compound and comminuted. The first is merely breakage of the bone into two or three pieces; in the second there is, in addition to the fracture, more or less extensive laceration of the soft parts, and perhaps protrusion of the broken pieces through the skin; while in the comminuted fracture the bone is smashed into many pieces. We may also have a combination of the two last—a compound, comminuted fracture, which, of course, is much more formidable than the simple, compound or comminuted. There is also another kind of bone breakage—the greenstick fracture, in which the bone is more or less fissured or split, without the separated portions being much displaced. Fractures are also distinguished by the direction of the breakage, such as vertical, transverse, oblique, etc., these designations being more particularly applied to the long or limb bones.

Considering the very severe strain and pressure exerted on the limb bones of the horse, it is indeed surprising that they are not more frequently broken. This comparative immunity is owing not only to the direction of the bones, and the manner in which those most severely tried are supported and bound together by powerful ligaments, but also to the form and structure of the bones themselves; as well as to their being closely covered by a very firm, inelastic membrane—the periosteum—which plays a very important part in strengthening and applying nutriment to the limb bones, and is also the chief agent in effecting repair when they have been injured.

A popular notion exists that break in bones in the horse do not mend readily, and that a fractured leg bone constitutes a hopeless case; consequently the animal is consigned to the knack, or is immediately destroyed by a bullet or the shot-gun. Consequently horses are consigned to destruction for a "break in leg"—no matter if it be a simple fracture which could easily be placed in a state for speedy repair, and also no matter how valuable the animal may be. The basis of this very often mistaken notion that attempts at a cure are futile. This deplorable alacrity in destroying horses because of fractured limbs has often excited my wrath and elicited an angry protest, when even professional men have counselled such destruction without attempting surgical treatment.

It should be known then by all horsemen that horses' bones unite when fractured even more readily than do those of man; and that some skill and a little care and patience will in very many cases be rewarded with an excellent recovery and the animal made as useful as ever. Even in very bad fractures of certain bones of the limbs recovery will take place, and though the horse may not be absolutely free from lameness afterwards, yet in the case of a valuable stallion or mare this is not of so much importance as the animal can be well utilized for breeding purposes.

I need only refer to what might well be called the wanton destruction of that splendid race horse, Holsteins, for a fracture that would certainly have healed, and if he had been unfit to race afterwards, the injury would certainly have been no very serious detriment to him if he had been kept for stud purposes. And had the fracture been of the very worst description, its situation was most favorable for amputation and that some skill and a little care and patience will in very many cases be rewarded with an excellent recovery and the animal made as useful as ever. Even in very bad fractures of certain bones of the limbs recovery will take place, and though the horse may not be absolutely free from lameness afterwards, yet in the case of a valuable stallion or mare this is not of so much importance as the animal can be well utilized for breeding purposes.

I have witnessed and successfully treated accidents of this kind which appeared to be so hopeless that I could scarcely believe their recovery possible, and their treatment was therefore more in the nature of an experiment, and to discover how far nature could or would go in repairing such appalling damage in such a restless and impatient quadruped as the horse. One of these cases, which happened more than 20 years ago, when I was in the Royal E. glancers at Chatham, made a deep impression on my mind, and rather revolutionized my notions as to the practicability of treating grave injuries of this description.



A REMUNERATIVE CROP OF CABBAGE.

One evening an excellent young troop horse, while feeding, and fearing that his neighbors in the adjacent stalls would deprive him of some of his allowance, was very restless, and in pawing got one of his fore feet so firmly fixed in a square hole near the door, beneath the manger, that he could not extricate it easily; he consequently struggled violently and the noise brought the guard into the stable. When he found the horse turned round the outside, with the end of his head collar broken and one of his fore feet on one side of the shank, sole upwards, so that the animal stood on the end of the shank bone when he put his weight on the limb.

I was hurriedly sent for, the message being that one of the horses had broken his leg. When I arrived the horse was standing outside the stable with a number of soldiers around him, and his off fore foot turned towards the outside, with the end of the shank bone protruding through a large lacerated wound, revealing the whole of the glistering cartilage that covers this part of it. An examination proved that there was complete dislocation of the fetlock joint, with rupture of the ligaments of one side of it, a large opening in the capsule of the joint, and a great tear in the skin nearly around the joint. There had been much hemorrhage. The case looked a hopeless one, and in other circumstances I am afraid that a recommendation for the animal's destruction would have been sent in at once.

Fortunately, however, it was too late in the evening to summon a board of officers, and as I did not care to take the responsibility of having the horse destroyed without authority, I decided to keep him alive until the morning, when a board could be assembled. In the meantime, I splinted the wound, with a little manipulation reduced the dislocation, applied pledgets of fine tow around the joint, and with bandage and splints so fixed this end of the limb that movement or displacement was almost impossible. Next morning the horse looked so well, appeared to suffer so little pain, and was so careful of his damaged leg, that I decided to let him live for a day or two, to see what would happen.

He was put in slings, the bandages and splints were taken off and more skillfully applied, the wound—being a most formidable one—being dressed antiseptically, and cold water was continually conveyed to the joint by an irrigation apparatus composed of a large barrel, a syphon tube, and a piece of India rubber tubing. This treatment was continued for about three weeks; the horse was a patient, and when the cold water irrigation was discontinued at the end of that time the wound was nearly healed.

Bandages and dry dressing were then resorted to, and in about two months the wound was completely healed and the joint quite movable and painless, so that the horse could stand upon it and walk fairly well. In the course of time he was turned out to graze in a meadow on the banks of the Medway, where he had no more trouble until he was jumping the ditcher and galloping about with the freedom and agility of a three year old.

The only evidence remaining of the accident was a slight enlargement of the joint and a very thick, conspicuous scar marking the site of the wound. The happy result of this case was a valuable lesson to me, and I was afterwards much less ready to recommend the destruction of horses when they met with similar misfortunes.

The chief objections to treating fractures of the limbs of horses are: (1) The popular notion that these fractures do not unite readily. This, as I have said, is a fallacy, as, if they are properly adjusted and maintained in position, they will unite even more readily than in mankind. (2) It is difficult to insure quietude on the part of the horse while union is taking place, but I have never found much difficulty in this, as when the horse is carefully stung and attended to, it is wonderful how docile he becomes, while he is generally very careful what he does with his crippled leg. (3) The expense of treatment and the risk that the horse will be lame afterwards.

The expense must certainly be considered, as if the horse is of little value only sentimental feelings towards him could influence his owner in attempting his cure; but if the expense is not a serious consideration, as it is not in the case of stallions or mares it is not—then if skill can ensure coaptation of the broken pieces of bone, and their maintenance in position, an attempt at cure should certainly be made. In some cases there might remain some lameness, but in my experience these cases are few, and with skill and patience these might be diminished in number. And if the degree of lameness did persist, this would not militate much against the usefulness of stallions or mares for stud purposes.

It must be noted, when dealing with the curability of fractures of horses' limbs, that very much depends upon the situation of the broken bones; as those which are at the upper end of the limb, and are more or less covered by masses of muscle, are most difficult to adjust or "set" when the pieces are displaced, and generally still more difficult to keep in their place. Such are the scapula blade, the arm bone and the fore bone below it, the thigh bone extending from the

hip joint to the stifle, the leg bone extending from the stifle to the hock; but even in some of these cases an attempt might be made to effect a cure.

There is a particular fracture of the leg bone that usually takes place a short distance above the hock, and is something of the nature of a "green-stick" fracture. This is nearly all cases is produced by a kick from another horse, the blow being inflicted on the inside of the bone, where it is only covered by skin, so that the horse that caused the injury stood on the other side of the one injured, and kicked beneath him. This kind of fracture is not at all uncommon among troop horses, and I have known it happen in the hunting field.

Immediately after receiving the blow the horse appears to experience much pain, and limps considerably; but this gradually passes off, and nothing is seen but a little wound in the skin where the blow was received. Sometimes days elapse and the horse has been going quite sound, perhaps performing hard work, when one morning, on going into the stable, the groom finds the horse standing with the leg dangling—the bone having become completely fractured. The bone at first was cracked or split, but the pieces were not separated, being held together by the strong membrane or periosteum already mentioned, until the matter thrown out to unite it produced slight separation; so that when the horse on getting up after his night's rest gave the leg a twist, complete displacement ensued, and then there was a veritable broken leg of a very serious description.

Complete fracture of the leg bone can seldom be remedied, because of the difficulty of bandaging it, so as to keep the fracture and leg fixed. But so well was the nature of the injury recognized that for many years whenever a troop or other horse met with it, I had him at once placed in a sling, and kept there as quiet as possible for three or four weeks, until I was certain that displacement could not happen. In several of these cases I had the satisfaction of discovering that my precaution had saved the horse, as a lump had formed where the bone had been fractured, and this lump was the bone thrown out to repair the damage.

The small bones of the knee and the hocks are very rarely fractured; not, however, the shank, and with it the splint bones, which may be broken either right across or obliquely, either by kicks or in other ways. When the fracture is a complete one there can be no doubt about the nature of the accident, as then the parts below are pendulous, the bones can be felt or heard rubbing on each other (crepitating) when the shank is handled, and there are great pain and lameness.

This fracture is more serious in the hind than in the fore limbs, as, indeed, all limb fractures are. But even such breakages are not hopeless, and provided the bones are not too much smashed, or the soft tissues too much torn, there may be hope of a satisfactory recovery, if the leg be prevented from wobbling about until the bone is safely placed in a sling; then if there is an external wound this can be treated antiseptically, the fracture adjusted, antiseptic wool or lint wrapped round it with a bandage and splints, and starch bandages, or those with plaster of Paris, to keep the whole immovable.

The most frequent fractures of any in the limb bones are those of the pasterns, which usually occur during severe exertion, as in galloping and jumping, or when being pulled up suddenly. I have known it occur while a horse was at exercise and jumping about. It is most frequent with race, steeplechase and troop horses, and is sometimes witnessed in hunters. Of the two pastern bones, the uppermost and longest (as scaphoid) is oftenest involved, though the shorter one (as coronoid) is by no means exempt.

The treatment of fracture of the pastern bones, of course, almost everything depends upon putting the injured part at rest as speedily as possible, and keeping it so until union is complete. As such accidents usually happen where there is no stable near, it is all important that the damage should not be made greater by causing the horse to travel without precautions being taken to prevent the broken bones becoming more displaced through movement. Therefore the part should be temporarily bandaged, with handkerchiefs if nothing better can be had, supported by twigs, splinters of wood or any similar material. If a horse ambulance cannot be procured the injured animal may then be moved slowly and gently to the nearest shelter, and in doing this much assistance may be afforded by a short plank or board, or even a sack, placed across and beneath the chest, the ends of which are to be carried by strong men; by this means the weight of the horse is kept off the injured limb, and travelling is rendered more expeditious.

When brought to the stable or shelter arrangements must at once be made for slinging the horse in the most comfortable and effective manner possible. This very essential part of the treatment accomplished, then attention can be devoted to dealing with the fracture, by setting the part straight, putting the separated pieces of bone in their proper place, rendering the wound, if there be any, antiseptic, and applying lint, bandages, and if necessary,

The shape of these bones, and more especially the large pastern bone, predisposes them to fracture, for on the upper surface of this bone is a groove, passing from before to behind, into which a corresponding ridge on the lower end of the shank bone fits and moves. There is a similar groove on the other end of this bone, to correspond with the upper end of the small pastern bone. Not only is the large pastern bone longer and thinner than the small one,—in fact, it is the smallest of all the long bones,—but the groove at each end, and the wedge-like ridge fitting into these, will at once explain why we should have splitting and all kinds of breakages in it when pressure from above is violently or unequally imposed upon it.

Sometimes the bones of two, three or four pasterns are simultaneously split or smashed; it is not at all rare for the long bones of both fore pasterns to be involved, especially in cavalry horses when pulling up after a charge. The bones of the hind pasterns are most frequently fractured in turning a horse round suddenly or backing him violently. The accident has sometimes occurred in the act of rearing.

The fractures of the pastern bones are of all kinds, and may pass in every direction, but they usually run to the outer side of the bone. In some cases the bone is simply split (Fig. 1); in others it is split and fractured across, perhaps into three, four or more pieces (Fig. 2).

It is sometimes easy, and often difficult, to tell what has happened, and in some instances it demands the greatest skill and care to decide as to the existence of a split pastern. In all cases there is intense pain and lameness, but unless the bone is completely broken into several pieces, when, of course, there is great mobility and crepitation on moving the part, fracture is not easily made out. More particularly is this the case with merely split pasterns, the existence of which can often only be inferred from the sudden and severe lameness and the acute pain the horse manifests when the seat of fracture is pressed by the fingers.

Fracture of the foot or pedal bone sometimes happens, but beyond the extreme and sudden lameness when the animal places its weight on the foot, increased mobility in manipulating and turning round the foot, and the absence of pain, crepitation, and displacement in the pastern bones,



Fig. 1—Split Long Pastern Bone.

There is little else to guide one in fixing the seat of fracture, the existence of which can only be suspected, at least for some days.



Fig. 2—Split and Transversely Fractured Long Pastern Bone.

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split, so as to keep the whole immovable. In the majority of cases it is advisable to resort to cold water irrigation, which has not only a soothing effect on the injured part, but keeps the subsequent inflammation within beneficial limits. In order to prevent the other feet suffering from the standing position, which has to be assumed for two months at least, it is well to have the shoes taken off, and dress litter, or used but dry straw litter, laid down.

Nothing more in the way of diet is necessary until recovery has taken place than plenty of good hay, with an occasional mash of boiled linseed or bran. The hay may be mixed with a small proportion of straw, forage if it is in season, and a few sliced carrots may be given.

As a rule, horses which have met with such accidents make good patients, as they appear to realize their serious condition, and if they are at all inclined to be restless, the presence of a kind, attentive attendant with whom they are acquainted will soothe and quiet them.

It is most important to make sure that, as long as it is in use, the sling is sufficiently strong and securely fixed, as its breaking down while the horse is resting on it might have most prejudicial consequences.

—London Live Stock Almanac.

Fresh Vegetables in New York.

The supply of fresh vegetables is always more or less limited at this season of the year, though at times liberal quantities are received from the South, more particularly from Florida, when weather is mild enough to permit. This year Florida has been visited by a number of cold waves, and the crops have been cut down from time to time, only to be replanted and cut down again by the next cold wave, and growers have had a most unfortunate season. The freeze last week was probably the most severe of the season, and not only ruined all vegetables in most sections, but it is feared the orange trees were also more or less damaged. At Miami, Gainesville and other large shipping centres in northern Florida, the temperature fell to 15° to 18°, and the cold wave extended farther down over all sections. At Miami, about the most southerly vegetable shipping station, it was 36° and naturally cold enough to ruin most of the growing crops. Many dealers here are financially interested in these produce farms, and the loss is felt here as well as by the growers themselves. Some of the growers are inclined to take a more hopeful view and claim the damage less than would be supposed, but dealers here are of the opinion that very little of the growing produce will be of much value. Where the vegetables were just out of the ground, growers saved some by plowing the earth over the rows and by covering with various things, but with favorable weather these vegetables will doubtless not be in shape to fix for a long time, possibly not before South Carolina or nearer by Southern plants supply the market sufficiently to make prices too low to warrant shipping from Florida. Then, again, a subsequent cold snap may put all calculations at sea.

While this cold spell occurred over a week ago, it has not been felt much here other than to lower the quality of the stock received by throwing a large quantity of frozen vegetables on the market. The cold weather here the last few days has helped to damage the receipts still more, many lots freezing while being brought over in open express wagons from Jersey City.

The small offerings of Florida vegetables have attracted shipments from other distant points, and very good prices have been realized for California stock of most kinds, and also New Orleans, Havana and Bermuda vegetables when quality has been attractive. Many of the California vegetables have been reshipped here from Chicago and some other Western markets. Scarcely any Florida peas have been received, and the market has been supplied almost entirely with California peas, the supply slightly exceeding the demand for some time on the basis of \$2 per box, which is as low as they can be profitably sold. Asparagus, cauliflower and celery have been among the other vegetables received in important quantities from California. Parsley, romaine, beets, carrots, peppers, okra and melons have arrived from Havana and Bermuda, and New Orleans is shipping mostly romaine, escarole, lettuce, chloery and other salad vegetables. A few tomatoes and other vegetables have arrived from Nassau and other Southern islands.

Export Apple Trade.

The total apple shipments to European ports for the week ending Feb. 24, 1899 were 17,064 barrels, including 15,829 barrels to Liverpool, 1458 barrels to London, 60 barrels to Glasgow and 585 barrels various. The exports included no barrels from Boston, 3275 barrels from New York, 8034 barrels from Portland, 3844 barrels from St. John, N. B., and 1850 barrels from Halifax. For the same week last year the apple shipments were 37,518 barrels. The total shipments thus far this year have been 1,175,367 barrels, against 1,130,831 barrels for the same time last year. The shipments in detail have been 175,741 barrels from Boston, 384,803 barrels from New York, 120,176 barrels from Portland, 289,916 barrels from Montreal, 232,694 barrels from Halifax, 12,331 barrels from Annapolis, N. S., and 51,706 barrels from St. John, N. B.

6434 Letters a Day. The John A. Sizer Seed Company, La Crosse, Wis., received 6434 orders Monday, Feb. 26, which is a monster day, but they expect to double this number by the middle of March. The firm is having a great trade in its specialties, potatoes, apples, bromus inermis, rape, big four oats, three-husked corn and earliest vegetables. There is a wonderful demand for onions, cabbage, peas and bean seed this year. Harry Bird Smith and Lightning Cabbage, the two earliest of this kind in the wide, wide world, are having a tremendous sale.



NOBBY TURNOUTS.

Require everything to be in keeping. A stylish carriage, a showy harness and a pair of thoroughbreds is not all that is necessary. A horse to be active, stylish and serviceable must be well. You feed properly, that is not all. You should feed also his skin; allow the hair to grow beautifully by using STOKES' - For sale by all dealers. GOODWIN & Co., Boston Agents.

